UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/066,061	04/24/1998	MATTHEW ZAVRACKY	KPN97-04A2	8310

21005 7590 10/29/2003

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER	
NGUYEN, JIMMY H	

ART UNIT	PAPER NUMBER
2673	32

DATE MAILED: 10/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

dl-R.

Office Action Summary	Application No.	Applicant(s)	
	09/066,061	ZAVRACKY ET AL.	
	Examiner	Art Unit	
	Jimmy H. Nguyen	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14,16,17,25-29 and 39-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14,16,17,25-29 and 39-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/28/2003 has been entered. Claims 14, 16, 17, 25-29 and 39-58 are currently pending in the application. An action on the RCE follows:

Claim Objections

2. Claims 27 and 46 are objected to under 37 CFR 1.75(a) because although these claims meet the requirement 112/2d, i.e., the metes and bounds are determinable, however, the feature, "the active matrix display" (see claim 27, lines 1-2 and claim 46, line 1), should be changed to -- the matrix display--, because of lacking antecedent basis for this limitation in these claims.

3. Claims 41 and 51 are objected to under 37 CFR 1.75(a) because although these claims meet the requirement 112/2d, i.e., the metes and bounds are determinable, however, the feature, "the housing" (see claims 41 and 51, line 2), should be changed to -- a housing--, because of lacking antecedent basis for this limitation in these claims.

4. It is in the best interest of the patent community that applicant, in his/her normal review and/or rewriting of the claims, to take into consideration these editorial situations and make changes as necessary.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 14, 17, 25-28, 39-41, 43-47, 49-56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis et al. (USPN: 5,867,795), hereinafter Novis, in view of Stewart et al. (USPN: 5,337,068), hereinafter Stewart, and further in view of Kitazima et al. (USPN: 4,532,506), hereinafter Kitazima.

As per claims 14, 25-27, 39-41, 44-46, 49-51, 53-55 and 58, Novis discloses a portable display system (see fig. 1) comprising a housing (11), a matrix liquid crystal display (LCD 20/60) mounted to the housing, inherently including an array of pixel electrodes (a visual LCD display 20/60, fig. 8, col. 7, lines 62-66), and having a display area of less than $200mm^2$ (col. 7, lines 26-38, and col. 7, line 62 through col. 8, line 8), a lens (lens 44/62, col. 7, lines 44-46 and lines 58-59) that magnifies an image on the display, and a card reader (a slot 16) within the housing that receives video input to be displayed on the display from a smart card or a memory card (a smart card 18, col. 3, lines 46-51) that docks with the card reader (further see figs. 1, 5 and 8, col. 3, lines 25-51 and col. 7, lines 40-66). Novis does not expressly teach the active matrix LCD being an active matrix color sequential LCD comprising a light source and a display control circuit which includes a switching circuit and a timing circuit, as claimed. Accordingly, Novis discloses all the claimed limitations except for a particular active matrix color sequential LCD comprising a light source and a display control circuit which includes a switching circuit and a timing circuit, as claimed.

However, Stewart discloses a portable display system (col. 2, lines 21-27) comprising an active matrix color sequential LCD (figs. 2A-2B) including an array of pixel electrodes (258), a light source (lamps 202-218) and a display control circuit (a circuit including elements 102-112, see fig. 1), which includes a timing circuit (a circuit including a timing circuitry 110 and a commutator 112), further see fig. 6 and the corresponding description. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to substitute Stewart's the active matrix color sequential LCD for the LCD of Novis because the benefits of using the active matrix LCD to enhance the revolution of the display and using the backlight to enhance the luminance of the display, thereby allowing the user to view a better image, are well-known to those of ordinary skill in the art. Accordingly, the combination of Stewart and Novis discloses all the claimed limitations with the exception of the switching circuit.

However, Kitazima discloses an active matrix LCD (fig. 6) including a counter electrode terminal voltage receiver (44) (corresponding to the claimed switching circuit) for switching a common voltage (V_{CM}) (see fig. 7, col. 5, lines 16-20) applied to counter electrode panel and having a high (Vc+Vb) or low (Vc-Vb) common voltage, further see col. 1, lines 51-56. It would have been obvious to one of ordinary skill in the art to utilize the switching circuit of Kitazima in the display control circuit of Novis in view of Stewart because the AC driving waveform applied to counter electrode can generate a stable drive voltage without being affected by the property of the liquid crystal of small discharge time constant so that a high contrast and a fast operation speed can be attained, thereby providing a highly reliable display device, as taught by Kitazima (col. 5, line 65 through col. 6, line 8).

Regarding to claims 17, 28, 43, 47, 52 and 56, Novis implicitly discloses the array of pixel electrodes comprising an array of at least 640 x 480 pixel electrodes (col. 7, lines 26-38, and col. 7, line 62 through col. 8, line 8).

7. Claims 16 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis in view of Stewart and Kitazima, as respectively applied to claims 14 and 41 above, and further in view of Ohtsuki et al. (USPN: 5,786,665), hereinafter Ohtsuki.

Regarding to these claims, Stewart further teach the light source being a fluorescent device (col. 5, lines 10-12), but does not disclose expressly the light source being a light emitting diode (LED) device, as claimed. Accordingly, the combination of Novis, Stewart and Kitazima discloses all the claimed limitations except for the fluorescent device instead of the claimed LED device.

However, Ohtsuki disclose a LCD device in which a LED device is used as a light source in order to reduce the thickness of the display device and the cost for a user (col. 35, lines 7-15). It would have been obvious to one of ordinary skill in the art to substitute Ohtsuki's the LED device for the fluorescent device of Novis because this would provide a thinner display device and reduce the cost for a user, as taught by Ohtsuki (col. 35, lines 7-15). Therefore, it would have been obvious to combine Ohtsuki, Kitazima and Stewart with Novis to obtain the invention as specified in claims above.

8. Claims 29, 48 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novis in view of Stewart and Kitazima, as respectively applied to claims 14, 41 and 51 above, and further in view of Zavracky et al. (USPN: 5,206,749), hereinafter Zavracky.

Regarding to claims above, Stewart further teaches the array of transistor circuits (TFTs 256) formed with polysilicon which is vapor-deposited onto a glass plate (230) (see fig. 2a). Accordingly, the combination of Novis, Stewart and Kitazima discloses all the claimed limitations except that the array of transistor circuits is formed with single crystal silicon and is bonded to an optically transmissive substrate with an adhesive layer, as claimed.

However, Zavracky discloses a display system in which the LCD display panel comprising an array of transistor circuits formed with single crystal silicon, and the array of transistor circuits being bonded to an optically transmissive substrate with an adhesive layer (see col. 1, lines 59-68). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize Zavracky's teachings above, i.e., forming an array of transistor circuits with single crystal silicon, and bonding the array of transistor circuits to an optically transmissive substrate with an adhesive layer, in the LCD panel of Novis in view of Stewart and Kitazima because this would provide a high quality LCD display panel with a low cost of fabrication, as taught by Zavracky (col. 1, lines 53-56).

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 14, 16, 17, 25-29 and 39-58 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4-7, 20-22 and 29 of U.S. Patent No. 6,476,784 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent and the application are claiming common subject matter, as follows: a portable display system comprising a housing, an active matrix color sequential LCD, a light source, a lens, a memory card reader, and a display circuit including a timing circuit and a switching circuit.

Response to Arguments

11. Applicants' argument with respect to the rejection under 35 USC 103, has been considered but are moot in view of the new ground(s) of rejection.

In response to applicants' argument that the reference fails to show certain feature, "the matrix display having a display area of less than $200mm^2$", page 7, lines 1-3, see the detailed rejection above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN
October 13, 2003

Jimmy H. Nguyen
Examiner
Art Unit: 2673